fancies disappear, to return only on occasions of undue fatigue, and then but seldom, if the case is understood and rationally treated. L. F. B.

Psychical Activity and Brain Temperature. —By Professor Mosso (Arch. Ital. de Biol). In these experiments Mosso used an especially constructed thermometer (made by Baudin, Paris) by means of which as small a difference in temperature as $\frac{1}{500}$ of a degree could be read. This method embraced the taking of the temperature of the blood of the uterus, rectum, or muscles, which was compared with that of the brain. His conclusions are based upon a large number of researches, of which the following are typical and illustrative:

1. A large dog is put to sleep by means of Tct. Opii. One thermometer is inserted into the carotid, so that the quicksilver bulb lies near the heart, a second into the rectum, a third into the brain within the motor region on the right hemisphere. A slow but constant fall in temperature is indicated by all the thermometers until a minimum for the brain is reached, which point is preserved for at least ten minutes, while the other two thermometers indicate a still lower temperature, After ten minutes a strong auditory stimulus is applied for at least half a minute. At once the respiration is deeper, the temperature of the blood at the carotid and rectum, however, sinking still lower, while a slight rise manifests itself in the brain. During the succeeding spasms which occurred with this animal, the temperature of the brain was 1° higher than that of the rectum, and after their cessation it remained constantly .4° warmer. In general the brain is colder than the rectum and uterus but psychical activities can produce such a development of heat in the brain that its temperature will be from .2° to .3° warmer than that of the rectum. In this animal the brain was 1.6° warmer than the arterial blood in the region of the heart.

2. In another dog (chloroformed but only partially insensible) the three thermometers are inserted between the two cerebral hemispheres, in the left carotid, and in the vagina. If the dog is called to, the temperature of the brain rises, while that of the blood falls. After some minutes they are again of the same temperature. Stimulate the brain with a faradic current, its temperature rises .09°, whileduring the same period that of the blood at the vagina falls.

3. A dog is deafened by means of chloral and three

thermometers are inserted—into the brain (motor centre, left hemisphere), into the muscles of the upper thigh along the N. ischiaticus, and the rectum, respectively. Electric stimulation of the loin produces muscular contraction of the hind paw and a rise of .36° in the temperature. Two minutes after the contraction, the temperature of the thigh falls still lower than before, just the opposite of the results obtained in stimulating the brain of the first dog, in which the temperature rose still higher.

4. Upon the injection of cocaine, the temperature of the brain rose gradually until, after fourteen minutes, it reached .36°. This temperature remained constant for fifteen minutes, and then fell slowly. The other organs were, with reference to their temperature, entirely uninfluenced.

From this very meagre analysis, the basis of Masso's conclusion can be seen. They are as follows:

1. The muscles can scarcely be regarded as the chief source of heat.
2. With reference to the influence of narcotics it must be said, that those chemical functions of the brain, upon which the consciousness and the sensibility are dependent, are affected detrimentally, and the theory that sleep and narcosis depend upon changes in the circulation suffices no longer.
3. These excitants increase the temperature of the nerve cells.

W. O. K.

THERAPEUTICAL.

Treatment of Epilepsy by Convulsives.—The "Mercredi Médical," October 5, 1892, contains Pierret's preliminary note on the treatment of epilepsy by convulsives, such as picrotoxine, belladonna, and atropine. Especially in *petit mal* are such remedies considered desirable, as they transform this condition into *grand mal*, and bring about marked improvement in the mental and moral sphere.

Following the teachings of Schiff and Herzen, Pierret accepts the theory that all manifestations of psychic and organic life may be reduced to one ultimate—motion. The centripetal nerves themselves transmit motions from without to nerve-centres. These forms of motion accumulate in the nerve-centres, and appear again to the outside world as chemical, calorific, or muscular actions.